

## Canadian high technology firms' key performance management processes: regional case studies

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### ABSTRACT

This exploratory research compares how high technology firms use performance management strategies. Eight high technology case studies were constructed from interviews with managers in small and medium high technology firms located in the Okanagan Valley region of British Columbia, Canada. This paper presents cross-case analyses of performance management processes and the link to strategic management in high technology SMEs. The results indicate that performance management and human resource management interaction encourages companywide standards and strengthens a firm's investment in human capital. Although these high technology firms are familiar with strategic management processes and record a higher than average number of strategic plans relative to the total SME population in the Okanagan Valley, potential contributions of performance management to the strategic business management are weak.

### ANZAM stream

#### **Human Resource Management and Development:**

**Keywords:** Human resource management, Human resource management and organisational performance, Performance management, Strategic human resource management, SMEs, high technology firms

### Presenter

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## **Canadian high technology firms' key performance management processes: regional case studies**

### **INTRODUCTION**

The purpose of this paper is to determine the relationships between high technology firms' key performance management (PM) processes and links to strategic management. The context of this study is the high technology sector in British Columbia (BC) which is viewed as the future engine of economic growth. Within British Columbia (BC), the total number of high technology establishments has grown from 5,021 to 5,389 (7.3%) between 1999 and 2003 (Schrier, Ni & Hallin 2003, p.48; Schrier, Hallin & Ni 2005, p.5). Despite periods of declining economic conditions in the Okanagan Valley region (southern interior of BC), this region grew from 273 to 294 establishments between 1999 and 2003, which represents a 7.7 percent increase (Schrier, Ni & Hallin 2003, p.48; Schrier, Hallin & Ni 2005, p.5). As of 2003, the number of employees reported by these firms revealed that 58 percent had five or fewer employees and 32.1 percent had between six and twenty employees. The majority of these firms are in software development, multimedia, or communication technologies (Calibre Strategic Services 2001). In this paper, one research issue in a larger doctoral dissertation is investigated, namely the Performance management (PM) processes and linkages between PM and strategic management in Canadian high technology small and medium enterprises (SMEs).

In terms of the firms' *definition of performance management*, the evidence in the previous research was that all case studies supports a well-developed understanding of PM (Price & Erwee 2006). Large firms, with HR managers, have a more distinct employee focus than the others, such as incentive bonus plans or employee and leadership development. Mid-sized firms tend to have a stronger emphasis on firm performance, with some employee needs identification but less investment in training. PM processes in small firms tend to be informal. The major omission in all case findings is the lack of attention and integration of PM processes with strategic business planning. The contention in this paper is that rapid growth in the high technology sector provides an ideal platform from which to study PM strategies and their interrelationship with human resource (HR) issues. A further assumption is that PM is a powerful strategic tool for executing business strategy, for leading change, and for promoting a learning environment. Nevertheless, it is unclear from a literature review whether the top management in high technology firms fully understand the strategic nature of performance management, and its ability to influence business strategy. Therefore the research issue that is explored in this paper is:

*RI What is the perceived relationship between performance management and human resource practices in high technology firms in the Okanagan Valley region?*

### **Building human capital in organisations**

*High technology firms and human resource management.* The literature contains exhaustive references to competitive advantages associated with human capital and HRM processes. The research, however, is limited regarding where high technology firms search for these opportunities through their people and which performance issues are significant for small, but growing, high technology firms. In fact, too few studies focus on the relationships among strategic processes, HR practices, and small firm performance (Chandler & McEvoy 2000). Likewise, information is scarce regarding growth in the high technology sector and how it affects the development of productive or high performance behaviours. Regardless, the literature indicates that innovative high technology firms are implementing new HR

programs, such as mentoring, cross-functional teams, exposure to new technologies, and other initiatives (Lazar 2001). Likewise, one-third of the *best practice* organizations for career development are from the high technology sector (Duxbury, Dyke & Lam 2001).

Human capital is potentially the difference between success and failure for high technology firms. As well, the influence of business fluctuations on employee development requires additional documentation for high technology firms that rely on their human capital pool. To understand better the influence of line and HR managers on human capital development and its potential for a competitive advantage, the following segment reviews the HR roles of specialty and line managers in SMEs, identifies SME organisational structures that do not have dedicated HR positions and discusses trends that are changing the HR landscape for specialists as well as line management in SME, specifically high technology, environments.

*Human resource roles of specialists and line managers.* Where HR managers and line managers collaborate, there is a clear definition of roles and responsibilities. Typically, the HR manager serves as an in-house consultant and acts in an advisory or counselling capacity, formulates, implements and monitors HR policies, procedures, and practices; has responsibility for a number of HR programs, such as planning, recruiting and selecting, training and development, downsizing, and employee advocacy (Belcourt et al. 2002). In contrast, managing people is the responsibility of line management and supervisors and line managers, together with employees, are ultimately responsible for the implementation and performance of HR programs and policies.

Where HR positions are not part of the SME management team, implementing one or more of the following strategies maximises the effectiveness of human resources a) Transferring many traditional HR functions to line managers, b) automating the administrative HR tasks, and c) Outsourcing non-key HR activities (Nankervis, Compton & McCarthy 2002). Whether or not an HR position is on staff, the firms' business strategies, structure, culture, size, and policies ultimately determine the correct choice of HR structure (Nankervis, Compton & McCarthy 2002).

*Changing human resource landscape for specialists and line managers.* Recent research evidence confirms a shift of HR functions from staff specialist to line management (Flood, Gannon & Paauwe 1996). Despite this, the HR function is assuming a more prominent corporate role. One trend is for line managers to accept more HR functions, but this change cannot replace the need for professional HRM expertise. In many firms, especially SMEs, line managers are accepting more HR responsibilities but centralised HR support is available. Given the growth of legislative requirements and the need for centralised control, this is a likely option for many companies (Nankervis, Compton & McCarthy 2002), including those in the high technology industry. Nevertheless, strategic business objectives, culture and structure, and the quality of the operating and HR managers determine the precise balance between line and HR management (Stone 2002).

Since HRM makes important contributions to organisational success, a second trend is that HR managers are assuming a greater role in top-management planning and decision-making (Belcourt et al. 2002). A recent Canadian survey of 202 organizations reveals that in 63 percent of the cases, the top HR position reports to the CEO, an Operating Officer or a Human Resources/Industrial Relations Vice President (Way & Thacker 2000, p. 41). At senior levels, there is a growing need for HR generalists who understand the business and are full members of the strategic management team (Stone 2002). This development provides a strong stimulus for HRM to become more strategic in its focus (Flood, Gannon & Paauwe 1996). In fact, strategic HRM may be the means for expanding the knowledge base and professional emphasis needed (Lundy 1994). A core feature of HRM's new role is that line managers have a key role in co-ordinating people resources towards achieving a profit (Truss & Gratton 1994). Under the influence of strategic HR thinking, line managers are more

inclined to attach importance to HR utilisation while generating added value (Flood, Gannon & Paauwe 1996).

The changing roles of line and HR managers present opportunities for more attention to the HR component of an organisation and for additional input to the crafting of strategic corporate plans. This added attention to human capital, in turn, offers the potential for a competitive advantage but not without addressing a number of challenges. Gaps in literature then, are the perception of the high technology sector regarding the relationship between PM and HRM and strategic management.

### METHOD

For this investigation, the unit of analysis was the high technology firm with twenty or more employees of the 300 SMEs located in the Okanagan Valley region. A number of criteria formed the decision making for case acceptance or rejection in this study namely a) geographical proximity (Okanagan Valley region), b) firm size (20 or more employees) since line managers implement PM processes, c) representativeness to growing high technology firms in the region (Miles & Huberman 1994), d) willingness of firms and motivations of their managers to contribute to the study, and e) constraints associated with first researcher's resources of time and finances.

Given the decision criteria and the sampling parameters, eight high technology firms from high technology manufacturing, software, and internet marketing were selected from the Okanagan Valley region (see Table 1). Within each firm, two to four executive or line managers were interviewed from a variety of positions and the selections included an HR manager or designate to represent the HR function.

**Table 1 The high technology case sample**

Case	Type	Size	Managerial role
1	Software	20 to 49 employees	<ul style="list-style-type: none"> <li>▪ 1 executive</li> <li>▪ 3 line managers</li> <li>▪ 1 part-time human resource manager</li> </ul>
2	Internet marketing	20 to 49 employees	<ul style="list-style-type: none"> <li>▪ 1 executive</li> <li>▪ 3 line managers</li> <li>▪ 1 human resource designate</li> </ul>
3	Software	20 to 49 employees	<ul style="list-style-type: none"> <li>▪ 1 executive</li> <li>▪ 3 line managers</li> <li>▪ 1 human resource designate</li> </ul>
4	Manufacturing	10 to 19 employees	<ul style="list-style-type: none"> <li>▪ 2 executives</li> <li>▪ 2 line managers</li> </ul>
5	Manufacturing	50 plus employees	<ul style="list-style-type: none"> <li>▪ 1 executive</li> <li>▪ 3 line managers</li> <li>▪ 1 human resource manager</li> </ul>
6	Software	50 plus employees	<ul style="list-style-type: none"> <li>▪ 2 line managers</li> <li>▪ 1 human resource manager</li> </ul>
7	Software	10 to 19 employees	<ul style="list-style-type: none"> <li>▪ 1 executive</li> <li>▪ 1 line manager</li> </ul>
8	Software	20 to 49 employees	<ul style="list-style-type: none"> <li>▪ 2 executives</li> <li>▪ 2 line managers</li> <li>▪ 1 human resource designate</li> </ul>

(Source: Price 2005)

An interview protocol detailed the general procedures adhered to for each case study – the initial pilot case study and seven subsequent research cases. One section of the interview protocol therefore asked the question “How would you describe the relationship between your firm’s human resource programs and its performance management process?”. The next section of the interview protocol asked “What key processes does your firm’s performance management use to support its competitive advantage?”. Further probing was done for strategic plans, communications and types of feedback. The section concluded by asking the respondents “From a low of 1 to a high of 7, how successful has your firm been in gaining a competitive advantage from performance management strategies?”.

A telephone call to the owner or general manager was the first contact with each high technology firm and arrangements for field visits were made. A case study database warehouses the collected evidence from interviewees and other sources of information (Yin 2002). Data reduction occurred throughout data preparation, individual firm analysis, and cross-case analyses (Miles & Huberman 1994). Once each single-case was analysed thoroughly, cross-case techniques commenced the analysis of PM processes and their linkages for patterns and themes in common. In this study, the strategy employed for cross-case analysis was a mixed one, which combined variable-oriented and case-oriented analyses, and the information was readily available for the creation of meta-matrices or stacked case-level charts (Miles & Huberman 1994). Finally, the similarities and differences associated with firm size, firm growth, and other contextual data developed a clearer understanding of the use of PM strategies. In this paper the cross case analyses are presented.

## RESULTS

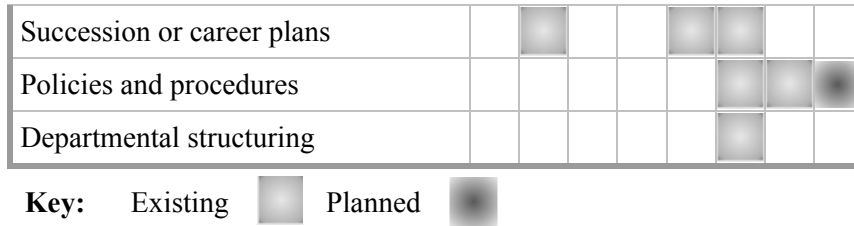
The research issue related to the *perceived relationship between performance management and human resource practices* in high technology firms in the Okanagan Valley region. The relationship between PM processes and HR practices is organised into two segments of cross case analyses: supportive HR policies and programs and the integration between PM processes and HR practices.

### Perceived relationship between performance management and human resource practices

**Supportive human resource policies and programs** To understand the relationship between PM processes and HR practices, it is first necessary to identify the firms’ main HR practices. This comparison of the cases’ HR policies and programs not only assists with the identification of those supporting PM, but also the extent to which they assist.

**Table 2 Human resource practices that support performance management**

Case studies →	1	2	3	4	5	6	7	8
<b>Human resource practices ↓</b>								
Recruitment and selection								
Orientation								
Training and development								
Compensation package								
Advocate or employee surveys								
Job descriptions								

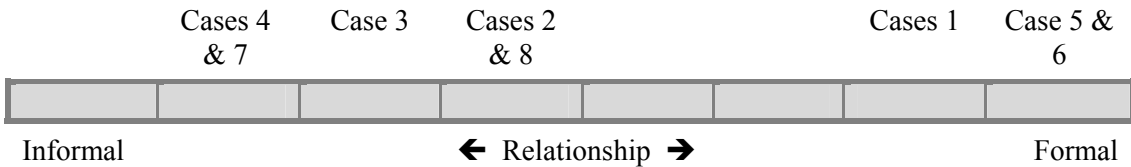


(Source: Price 2005)

Table 2 demonstrates that the high technology cases support their PM processes with a number of HR practices. The strongest similarity among the cases is the existence *formal recruitment and selection practices* and *planned orientation programs*. Training and development and compensation packages also assist, directly or indirectly, their PM processes. Only the two large-sized firms have PM processes that rely on job descriptions and integrate with career planning, but two of the four mid-sized cases are beginning to initiate or integrate these HR practices too. Overall, however, job descriptions, succession or career planning, and documented procedures are integrated with PM processes in only 50 percent or fewer of the cases.

**Relationship between performance management and human resources** The case findings indicate that integration between PM processes and HR practices is companywide and more formal when a firm employs an HR Manager who is also a member of the management team. Nevertheless, firms with HR designates also enjoy some companywide HR practices, but, to a greater extent, implementation relies solely on line managers' implementation skills. In general, the smaller cases report fewer companywide HR programs to support PM processes.

**Figure 1 Extent to which firms' human resource practices integrate with their performance management processes**



(Source: Price 2005)

The primary differences in the cases' relationships, between PM processes and HR practices, appear to be a function of companywide standards and their effect on the consistency of implementation practices by line managers. The data indicates who is assigned primary responsibility for integrating HR practices with the firms' PM processes. In Case 5 and 6 the HR manager carries the primary responsibility, whereas in Cases 2, 3, 4, 7 and 8 the line manager has a primary responsibility and in Cases 2 and 8 a HR designated person has a secondary responsibility. This finding confirms the *influence of HR managers on the integration of HR policies and programs with PM processes*. Where firms designate a specific individual to HR practices, the development is often shared with line managers, but the integration is dependent on the competence of individual line managers.

**Key performance management processes and strategic management**

The research also investigated how *key performance management processes support strategic management*. The discussions of the cross case analyses of key PM processes and their support for competitive advantages are organised under three segments: components of strategic management process, role of strategic planning in PM, and feedback linkages in PM process.

**Components of strategic management process** A comparison of strategic management components provides an opportunity to investigate the strategic nature of PM processes. Further, the extent to which PM processes are strategic offers insight about PM’s support to the competitive advantages outlined in the case studies. Table 3 compares the strategic components among the cases.

**Table 3 Comparison of strategic management components**

Case studies →	1	2	3	4	5	6	7	8
Strategy components ↓								
Vision (or BHAG component)								
Mission statement								
Core values or guiding principles								
Financial or strategic goals or objectives								
Strategic plans								
Other business/tactical plans								

(Source: Price 2005)

Table 3 suggests that the similarities and differences among the case studies tend to be associated with size. That is, within the mid-range (20 to 49 employees), two reveal all strategic management components and a third has tactical plans and is in the process of developing its strategic plans. The two large cases (5 and 6) do not formally integrate their strategic plans and PM processes; in both circumstances, their PM processes have been developed with an HR focus. The two small cases (4 and 7) have fewer strategic components in place.

**Role of strategic planning in performance management** Judging from the case studies, the role of strategic planning in PM processes varies on two parameters – direction of integration and degree of formality. From a directional perspective, table 4 indicates a universal top-down role for PM in communicating business objectives and plans; that is, management provides information to employees. Further, the findings show that PM processes are influenced top-down by values, culture, position descriptions, and other communication. For example, the core values of three of the four mid-range (20 to 49 employees) cases are integrated into their PM processes; the fourth case has only recently developed and communicated its core values. In addition, the two largest firms incorporate formal position descriptions into their PM programs.

The cases also reveal that the PM processes provide feedback to their business plans from the bottom-up or from employees to management. Seven of the eight cases utilize PM to provide employee or business feedback for objectives and plans, and three mid-range cases tailor their PM processes to facilitate implementation of business strategies or tactics. A few cases use PM to communicate results upward via a meeting network or employee development plans.

**Table 4 Directional roles of strategic planning in performance management**

Case studies →	1	2	3	4	5	6	7	8
<b>Top-down role ↓</b>								
Business objectives and plans	■	■	■	■	■	■	■	■
Core values/culture	■	■						■
Implementation of plans	■		■					■
Firm communication			■	■				
Position descriptions					■	■		
<b>Bottom-up role ↓</b>								
Business feedback/monitoring	■	■	■	■				■
Formal employee appraisals	■	■			■	■		■
Network of meetings	■	■						
Employee development plans						■		

(Source: Price 2005)

The degree of formality between strategic planning and PM varies among them. The formality between PM and business strategy depends on the relationship that PM has in strategy formulation and implementation. Case 1 has a formally documented strategic plan. Cases 2 and 8 have formal goals supported by departmental strategies or tactical plans, whereas cases 3 and 4 have business plans, but their linkages with the firms' PM processes are unclear. The implementation of strategic plans in cases 5 and 6 is dependent upon the PM applications of their line managers.

The potential contribution of PM to the crafting of strategic plans also varies among the firms. Five of the eight firms have formal appraisal mechanisms, which to varying degrees transmit the results for crafting strategy. For example, the intended PM purposes of the large cases (5 and 6) are HR management directed – profit-sharing and employee development. As a result, although strategic feedback is available, neither process is designed for crafting strategy. Generally, the findings indicate that the formality between strategic planning and PM processes is relatively weak and often dependent on the interpretation of line managers. The findings do not suggest integration differences based on firm size.

#### **Feedback linkages in the performance management process**

All cases exhibit a well-developed network of meetings and other communication mechanisms devoted to supporting their external and internal competitive advantages. A comparison of the cases reveals that three quarters of the cases report regularly scheduled management, departmental or group and all-staff meetings. Table 5 illustrates the similar and different communication linkages reported by the cases. Similarities among the cases are apparent in both internal and external support of competitive advantages. Internally, three-quarters of the cases convey extensive feedback to staff members via an Intranet or employee e-mail, and, externally, marketing and sales materials or customer surveys are the most frequently selected vehicles for supporting competitive advantages. Other feedback mechanisms appear to differ in emphasis by case need or focus. For example, bulletin board posting are an essential form of communication for Case 6 because computers are not available to all manufacturing employees. Similarly, presenting research papers at conferences and trade shows, by Case 2, supports its competitive advantage and leadership in



search marketing. A final observation is that only case participants from mid-size ones (20 to 49 employees) and the large-size ones (50 plus) practice unique mechanisms uncommon to other cases.

**Table 5 Comparison of feedback linkages**

Case studies →	1	2	3	4	5	6	7	8
<b>Network of meetings ↓</b>								
Regularly scheduled management teams								
Regularly scheduled department/group								
Quarterly management retreat								
All-staff/employees								
Other specialized/field								
<b>Other mechanisms ↓</b>								
Intranet/employee e-mail								
Marketing/sales material								
Customer surveys/customer culture								
Bulletin boards/postings								
Employee satisfaction surveys								
Conference/trade show presentations								
Knowledge data base								
Quarterly newsletter								
Lunch and learn sessions								

## DISCUSSION

### Relationship between PM processes and human resources programs

**Supporting human resource policies and programs** Among the high technology firms, the strongest HR support to PM processes is formal recruitment and selection practices and planned orientation programs. In addition, training and development and compensation packages, with varying degrees of formality, affect PM processes. The final HR support is more evident in the large-sized cases as both integrate job descriptions and succession planning into their PM processes. The evidence indicates that two of the mid-sized cases are either initiating or already integrating these core HR practices too. Otherwise, HR support varies among the firms and these differences do not appear to be related to firm size.

A number of PM definitions refer to the integration of PM or its appraisal component with HR programs (Fletcher 2001; Millett 1998; Pamenter 2000; Stewart et al. 2001). Similarly, the majority of the case studies participating in this research report formal appraisal components and all of these cases support their PM processes with at least three of the following HR practices: recruitment and selection, new employee orientation, training and development and compensation. The remaining HR practices reported in as supporting the

firms' PM processes – employee feedback, job descriptions, succession or career planning, and documented policies and procedures – appear to be specific to each firm's PM needs.

**Involvement of human resources** A finding is that strong formal companywide linkages exist between HR practices and PM processes when there is an HR manager who is also a member of the management team. Cases reporting HR designates have many companywide HR practices too but implementation of them relies solely on line managers' capabilities. As such, companywide consistency is more difficult to achieve. The literature affirms that HR managers are assuming responsibility in top-management planning and decision-making (Belcourt et al. 2002; Way & Thacker 2000). At least half of the cases report that the HR manager or designate is a member of the management team; nevertheless, all of these managers do not report directly to the most senior executive member. Currently, high technology firms are using line managers for many traditional HR roles (Nankervis, Compton & McCarthy 2002). Similarly, more than half of the cases rely on line managers totally or line manager and HR designate combinations. No evidence was presented by the firms to suggest changes to their HR structures.

The case studies suggest that the choice between employing an HR manager or not is primarily a function of size. Literature, on the other hand, proposes that the balance between line and HR accountability is determined by strategic business objectives, culture and structure, and the quality of the operating and HR managers (Stone 2002). In conclusion, the relationship strengths between PM processes and HR practices appear to be a function of companywide standards and implementation consistency.

#### **Key performance management processes supporting strategic management**

From a strategic management perspective, mid-size cases document the largest numbers of implemented components. Further, they have a stronger tie between their PM processes and strategic or tactical plans. That is, the two largest cases clearly report an HR focus to their PM processes and, a more informal tie with strategic planning. The smaller firms have few strategic components in place and, as such, the role of strategic planning in PM is not formal. All cases report well-developed networks of meetings to enhance their PM components. In addition, the mid- and large-sized firms have developed other communication mechanisms specific to their needs.

**Strategic management components** The evidence of strategic business components (vision, mission, values, objectives, and plans) within each case varies, to some degree, according to its size. Of the mid-sized cases, two affirm the existence of all five strategic components and the other two have the majority of components. The large cases confirm the existence of specific objectives supported by either broad or targeted strategies. The two small cases have fewer formal components, although Case 4 has a mission, objectives and an accompanying plan. In four cases, discrepancies occur between the participants' messages and the firms' survey results regarding the strategic nature of their business plans.

A review of literature specific to small and medium enterprises (SME) reinforces the need for sound strategy. According to Sandberg, Robinson and Pearce (2001), strategy serves as their logic for competing - determining market positioning, pursuing opportunities, and organising activities. Further, strategy execution is distinguishing high performing from average firms (Pfeffer 1996). The case study findings indicate awareness and knowledge of strategic components. With respect to the existence of strategic plans and their integration with PM processes, perceptions vary between the participants interviewed for each case and the contact who completed the firm's survey. It is assumed that differences result from perceptions of individual participants, their participation in planning exercises, and effectiveness of strategy communication in each firm. It can be concluded that the eight case studies are fully familiar with the terms and components generally associated with strategic management processes. Additionally, although the sample is small and ignores firms with fewer than 10 employees,

the case evidence implies increased usage of strategic plans by high technology SMEs. However, the results are unclear regarding the depth, formality, and communication of the plans. Organising activities are evident in 50 percent or more of the cases, but their integration with business strategies is less obvious.

**Role of strategic planning in performance management** The interaction between strategic management and PM processes is *bi-directional*. From a top-down perspective, the role of strategic planning in the PM processes of the eight case studies is universal for the communication of business objectives and plans. In addition, the findings demonstrate that the cases' PM processes are influenced by values, culture, position descriptions, and other communications. For example, three of the four mid-size cases integrate their core values into their PM processes. From a bottom-up perspective, seven cases provide employee or business feedback through their PM processes.

The *degree of formality* between strategic planning and PM processes varies among the eight case studies. As previously indicated, the firms have relatively well-developed strategic components or elements; nevertheless, their integration with PM processes is often dependent on the interpretation of line managers for strategy execution. The PM purposes in the largest cases are HR management directed – profit-sharing and employee development. As a result, although strategic feedback is available, neither process is designed for crafting strategy. Otherwise, no trends are apparent due to size of the firm.

In these high technology SMEs, the firms' objectives and plans are communicated through the PM processes. From the bottom-up, PM assists managers with their coaching, leading, and strategic roles (Heneman & Thomas 1997) because it is collaborative and development-oriented and involves performance improvement (Egan 1995). Similarly, the eight case studies implement PM components to communicate business and employee performance from the bottom-up. PM is identified in the literature as a critical process for business strategy execution (Stewart et al. 2001) for assigning accountability, measuring productivity, and directing accomplishment of strategic goals (Stewart et al. 2001). Strategically, the findings indicate that the eight cases do not capitalize fully on these opportunities. There is, however, ample evidence that most of the firms assign accountability and measure firm and employee accomplishments. Although participation in the planning process is evident, within the case studies, there is little information suggesting that formal PM feedback is taken into account when crafting strategic or business plans. Yet, all of the large and mid-sized firms have either companywide or departmental appraisal programs that measure employee accomplishments to pre-determined goals.

**Feedback linkages in the performance management process** All cases exhibit a well-developed network of meetings plus other communication mechanisms devoted to supporting their competitive advantages. Three quarters of the cases report regularly scheduled management, departmental or group and all-staff meetings. The exceptions are one of the largest firms, which has two BC locations, and one of the smallest firms, which has the advantage of managing by walking around (MBWA). By definition, PM contains linkages with business strategy development and execution and HR and reward management systems. Further, as a strategic process, PM has the potential for building those differences necessary for a competitive advantage. Most definitely, the sophisticated meeting networks support communication among the strategic PM components in the conceptual framework – strategic business planning, performance management, human resources management, and competitive advantage. Further, the majority of firms use a number of other internal and external mechanisms as opportunities to discuss business performance results and competitive successes, and to adopt corrective actions.

## CONCLUSIONS

### **The relationship between PM processes and human resources programs**

It can be concluded that the HR practices initially formalised and integrated with PM processes, by the eight high technology firms, are attraction, retention, and orientation and, to a lesser extent, development and compensation programs. Nevertheless, the degree of formality and extent of integration varies among the firms and with little apparent connection to size. The dissimilarities among the cases are potentially more revealing. The HR practices, which are not common among the cases, appear to be aligned with each firm's reasons for initiating a PM process and its resulting objectives.

The relationship between PM processes and HR practices is more than merely support from one to the other. The case evidence indicates that PM-HR interaction encourages companywide standards and consistency and, potentially, strengthens a firm's investment in human capital. Most these eight growing high technology firms recognise the need for integration between their PM processes and their core HR programs, such as attraction, retention, development and compensation. Predictably, those firms with HR professionals have more integrating HR practices and components that are focused on employee performance. In addition, the commitment to PM processes is greater when line and HR managers work together on the crafting and execution.

PM processes have the capability of assuming various expressions, which are related to reasons for initiating them and their resulting objectives. These factors, not size of firm, potentially account for the varying degrees of formality and extent of integration between PM processes and HR practices. For example, the evidence suggests that an employee versus firm focus to PM processes is the result of why it was initiated and by whom. Further, when executives assign accountability for PM processes to HR managers, the PM processes are more formal and more people-focused. At this point, whether PM processes are HR programs or a line management tools appears to be dictated by desired outcomes as formulated by high technology firms in the Okanagan Valley region.

### **Key performance management processes supporting strategic management**

The eight Okanagan Valley high technology firms in this study are fully familiar with the terms and components of strategic management processes; further, they record a higher than average number of strategic plans relative to the total SME population in the Okanagan Valley. Organising activities, top-down planning mechanisms, and bottom-up informational sources are all highly evident, but the linkages of these various structures with the firms' strategies is less obvious. None of the case studies conveys a message of in-depth crafting or executing of strategic business plans. As a result, the potential contributions of PM to the strategic business management are weak for crafting and execution.

All of the firms are cognisant of the need to communicate continuously. In fact, most of the firms use formal surveys to canvass the perceptions of customers, employees or both. With heightened importance on the strategic management component, these feedback mechanisms are highly beneficial tools for strategic PM processes.

## REFERENCES

- Belcourt, M & McBey, KJ (2004) *Strategic human resources planning*, 2<sup>nd</sup> Cdn edn, Thomson Nelson, Toronto.
- Calibre Strategic Services (2001) *Okanagan high tech study*, prepared for Economic Development Commission (EDC), Regional District of Central Okanagan (RDNO), Science and Technology Council of the Okanagan, and Okanagan High Tech Council.
- Chandler GN & McEvoy GM (2000) 'Entrepreneurship: theory and practice', *Entrepreneurship: Theory and Practice*, 25 (1): 43-58, viewed 24 September 2002, Business ASAP International Full text.
- Duxbury L, Dyke L & Lam N (2001) 'Career development in high-tech companies: lessons from the best', *Human Resources Professional*, 18 (5): 41-44, viewed 5 June 2002, ABI/Inform Global Full Text.
- Egan G (1995) 'A clear path to peak performance', *People Management*, 1(10) 3p, viewed 1 August 2000, EBSCOhost database Academic Search Elite, item: AN9710222010.
- Fletcher C (2001) 'Performance appraisal and development: the developing research agenda', *Journal of Occupational and Organizational Psychology*, 74(4): 473-87, viewed 27 May 2002, ABI/Inform Global Full Text database.
- Flood PC, Gannon MJ & Paauwe J (1996) *Managing without traditional methods*, Addison Wesley Publishing Company, Sydney, pp. 97-102 & 190-201.
- Heneman RL & Thomas AL (1997) 'The Limited, Inc.: using strategic performance management', *Compensation & Benefits Review*, 27(6):8p, viewed 1 August 2000, EBSCOhost database Academic Search Elite, item: AN9710246543.
- Lazar G (2001) 'Keep your key people', *Electronic Business*, 27 (5): 86-94, viewed 27 May 2002, ABI/Inform Global Full Text.
- Lundy O (1994) 'From personnel management to strategic human resource management', *The international Journal of Human Resource Management*, 5(e): 687-720
- Miles MB & Huberman AM (1994) *Qualitative data analysis: an expanded sourcebook*, 2<sup>nd</sup> edn, Sage, Thousand Oaks.
- Millett B (1998) 'Performance management: a strategic human resource function', in K Parry & D Smith (eds.), *Human Resource Management: Contemporary Challenges and Future Directions*, pp. 95-114, USQ Press, Toowoomba.
- Mohrman AM & Mohrman SA (1995) 'Performance management is running the business', *Compensation & Benefits Review*, 27 (4): x, viewed 19 June 2000, EBSCOhost database Academic Search Elite, item: AN9508257615.
- Nankervis AR, Compton RL & McCarthy TE (2002) *Strategic human resource management*, 4<sup>th</sup> edn, Nelson ITP, Melbourne.
- Pamenter F (2000) 'Moving from appraisals to employee enhancement', *Canadian Manager*, 25 (1): 13-15, viewed 30 May 2002, CBCA Full Text database.

Pfeffer J (1996) 'When it comes to 'best practices'--why do smart organizations occasionally do dumb things?', *Organizational Dynamics*, 25 (1): 12p, viewed 1 August 2000, EBSCOhost File: Academic Search Elite, Item: AN9610242818.

Price S (2005) 'Performance Management Strategies: A Competitive Advantage for High Technology Firms: A Study in the Okanagan Valley Region of British Columbia, Canada'. Unpublished DBA dissertation, University of Southern Queensland, Australia.

Price S & Erwee R (2006) 'Cross case analysis of how SME high technology firms in Canada define performance management' Presentation at Academy of Management annual conference August 14, Atlanta Georgia, USA,

Sandberg WR, Robinson R & Pearce JA (2001) 'One more time... should small companies attempt *strategic* planning?', *The Entrepreneurial Executive*, April, viewed 23 January 2004, <<http://www.dushkin.com/powerweb/0072527501/article.mhtml>>.

Schneier C, Shaw D & Beattie R (1991) 'Performance measurement and management: a tool for strategy execution', *Human Resource Management*, 30(3): 279-300.

Schrier D, Hallin L & Ni A (2005) *Profile of the British Columbia high technology sector 2004 edition*, BC Stats & Leading Edge British Columbia, April, viewed 14 August 2005, <[www.bcstats.gov.bc.ca](http://www.bcstats.gov.bc.ca)>.

Schrier D, Ni A & Hallin L (2003) *Profile of the British Columbia high technology sector 2003 edition*, BC Stats & Ministry of Competition, Science and Enterprise, December, viewed 8 June 2004, <[www.bcstats.gov.bc.ca](http://www.bcstats.gov.bc.ca)>.

Stewart EB, Belcourt M, Sherman A, Bohlander G & Snell S (2001) *Essentials of managing human resources*, 1<sup>st</sup> Cdn edn, Nelson Thomson Learning, Scarborough.

Stone RJ (2002) 'Strategic human resource management', *Human Resource Management*, 4th edn, John Wiley & Sons, Brisbane, pp. 4-33.

Truss C & Gratton L (1994) 'Strategic human resource management: a conceptual approach', *The International Journal of Human Resource Management*, 5(3): 663-86.

Way SA & Thacker JW (2000) 'Trends in Canadian human resource practices', *Human Resource Professional*, August/September, 17(4): 41-3.

Yin RK (2003) *Case study research: design and methods*, Sage, Thousand Oaks.